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Occultation of Saturn, as observed at Hartwell, 1859, *May* 8.

By Norman Pogson, Esq.

(*Communicated by Dr. Lee.*)

	Greenwich Mean Time.					
	Immersion.			Emersion.		
	h	m	s	h	m	s
Saturn, western limb	8	18	0·1	9	16	26·2
Saturn, eastern limb	8	18	33·4	9	16	58·2
Eastern extremity of ring ...	8	18	42·1	9	17	16·1
Titan	8	21	21·7	......		
Star (about 8 mag.)	8	22	37·8	......		

The times of immersion and emersion of the western extremity of the ring were not recorded, but the other phenomena are considered pretty exact. *Titan* and the star following both disappeared instantaneously, but were neither of them visible until some distance from the moon's bright limb at their reappearance. No distortion of moon or planet was at any time perceived, though carefully looked for. The chief division of the rings was quite as distinct even up to the moon's limb as on any ordinary occasion. The disk of *Saturn* assumed a dull sea-green tint at emersion, much deeper and less luminous than that of *Jupiter* when similarly situated on Jan. 2d, 1857. On that occasion *Jupiter* was estimated to be a little brighter than the central part of *Mare Crisium*, while *Saturn* compared with the same spot was decidedly fainter. Five minutes after emersion, however, the unusual tint had considerably diminished, and the planet was fast recovering its general appearance. The evening was clear and calm as could be desired. The observations were made with the Hartwell equatoreal, charged with a power of 118.

Occultation of Saturn by the Moon, May 8, 1859. Observed by F. Morton, Esq., at Wrottesley Observatory.

(*Communicated by Lord Wrottesley.*)

The telescope employed was the 11-foot equatoreal, power 190. The definition of the planet was very fair, and no distortion was perceived during the occultation. Satellite I. did not disappear suddenly, as did the other, but its light had sensibly diminished before its final disappearance.

The satellites are designated in the order of their proximity to the planet.

The first reappearance of the ring was not caught, owing to the faintness of the planet as compared with the moon. The ring seemed to cling slightly to the edge of the moon before they separated.

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Phenomenon.	Local Sidereal Time. h m s	Local Mean Solar Time. h m s
First contact with ring	11 11 10·4	8 6 40·6
Total disappearance of ring	11 11 55·9	8 7 25·9
Disappearance of Satellite I.	11 14 34·4	8 10 4·0
,, Satellite II.	11 15 52·9	8 11 22·3
First reappearance of ball	12 9 55·4	9 5 15·9
Last contact with ball	12 10 27·4	9 5 47·8
Last contact with ring	12 10 54·4	9 6 14·8

On the Successive Illuminations of the Lunar Crater Geminus.

By W. R. Birt, Esq.

A few years since a Committee of the British Association for the Advancement of Science was appointed to examine into the physical character of the moon's surface. Among the suggestions and recommendations offered by the Committee is that of the examination of any particular part of the lunar disk under at least three aspects, viz., a morning or forenoon, a midday, and an evening illumination. Having lately directed my attention to the crater *Geminus*, and observed it during *two* lunations under the three aspects recommended, I have been so struck with a somewhat remarkable feature that has presented itself in the midday illumination, that in the hope of a more powerful examination being made of it than I am able to effect, I am induced at once to lay the details before the Society rather than wait for fuller details resulting from any future observations I may make, which delay may possibly occasion an omission of a notice of it entirely.

The crater is situated in the north-west quadrant of the moon *as seen from the earth*, and northward of the *Mare Crisium*. It has to the westward of it a smaller crater named *Bernouilli*. Under a morning illumination it presents an elliptical outline, the western wall being in shadow, the eastern being more or less strongly illuminated by the sun's rays according to their obliquity. A bright spot exists between it and *Bernouilli*. The floor of the crater *Bernouilli* is very much darker than that of *Geminus* at a period of the lunar day corresponding to 7 days of the moon's age, while the space between *Geminus* and *Bernouilli* presents about the same reflective power as the floor of *Geminus*. A dark space of the same intensity as the floor of *Bernouilli* extends northward of this crater. These features are exhibited on the drawing* representing the forenoon illumination on May 9, 1859, between 8 and 10 hours, G.M.T., at 9 P.M. of that day the moon's age was 6·96 days.

Three days afterwards, viz. on May 12, between 7·30 and

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* This drawing and the other, to which he refers were exhibited at the meeting.

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